

WE CLAIM:

1. A tamper evident lid for mounting over an opening of a container having sidewalls with a lip extending outwardly therefrom to define said opening, said lid comprising:

a base;

a rim extending about said base for receiving said lip;

at least one resiliently flexible finger extending inwardly from said rim for engaging said lip, each said at least one finger having a length exceeding the distance between and inside of said lip and said sidewall and extending toward said base when said lid is mounted on said container; and,

at least one frangible membrane formed in said rim and associated with at least one said finger for facilitating tearing of said rim to disengage said at least one said finger from said lip to enable removal of said lid from said container while leaving evidence of removal by way of a torn frangible membrane.

2. The tamper evident lid of claim 1 wherein:

said rim has an upper end adjacent to said base and a lower edge distal to said base; and

said frangible membrane extends from said lower edge toward said upper end.

3. The tamper evident lid of claim 1 wherein:

a respective of said frangible membrane is disposed on opposite sides of at least one said finger.

4. The tamper evident lid of claim 2 wherein:

at least a pair of said fingers is provided; and,

each one of said pair of fingers is disposed on an opposite side of said frangible membrane.

5. The tamper evident lid of claim 3 wherein:

said frangible membrane extends to a membrane hinge formed in at least one of said rim and said base; and,

said membrane hinge is positioned to facilitate disengagement of said at least one said finger from said lip upon tearing of said frangible membrane.

6. The tamper evident lid of claim 5 wherein:

said at least one said finger is disposed between said membrane hinge and said lower edge.

7. The tamper evident lid of claim 2 wherein:

said frangible membrane extends to at least one membrane hinge formed in said rim;

each said at least one membrane hinge extends from said lower edge toward said base; and,

said at least one said finger is disposed in an area bordered by said frangible membrane, one of said at least one membrane hinge and said lower edge.

8. The tamper evident lid of claim 4 wherein:

said pair of fingers is disposed between a pair of membrane hinges extending from said lower edge toward said base; and,

each said frangible membrane extends from said lower edge to each one of said pair of membrane hinges; and,

each said one of said fingers is disposed in an area bordered by said at least part of said frangible membrane, said membrane hinge and said lower edge.

9. The tamper evident hinge of claim 2 wherein:

a pair of radially spaced apart of said frangible membranes is provided with at least one of said at least one finger, disposed therebetween; and,

a membrane hinge extends across said base between said frangible membranes to facilitate disengagement of said fingers from said lip upon tearing of said frangible membranes by bending a portion of said base away from said lip.

10. The tamper evident hinge of claim 9 wherein:

a plurality of said fingers are disposed between said frangible membranes.

11. The tamper evident lid of claim 2 wherein:

at least one of said at least one fingers is a webbed finger having at least one web defined by a reduced thickness region extending toward said rim from a lip engaging end of said webbed finger which is distal said rim.

12. The tamper evident lid of claim 11 wherein:

each said webbed finger is provided with a passage therethrough in the form of a window to promote drainage of fluid trapped between said webbed finger and said rim.

13. The tamper evident lid of claim 1 wherein:

each said at least one finger has a profile selected from the group consisting of rounded, parallel faced straight, tapered narrowing toward said rim and tapered narrowing toward said rim with a scallop facing said container at an outer end thereof distal said rim.

14. The tamper evident lid of claim 13 wherein:

each said finger is curved in a direction generally corresponding to a curvature of said container to provide a lengthened contact zone with said lip.

15. The tamper evident lid of claim 13 wherein:

said rim has a recess extending from said fingers to said lower edge to accommodate said fingers to facilitate stripping of said lid in an injection moulding process.

16. The tamper evident lid of claim 13 wherein:

said fingers extend from said lower edge of said rim.

17. The tamper evident lid of claim 2 wherein:

from six to eight tear tabs are provided.

18. The tamper evident lid of claim 6, 7 or 8 wherein:

at least one pull tab extends from said lower edge of said rim to facilitate tearing of at least one said frangible membrane.

19. The tamper evident lid if claim 18 wherein:

a stacking ring extends about said base and away from said rim to engage said lower edge of an adjacent of said tamper evident lid stacked thereupon to resist lateral shifting therebetween; and,

said stacking ring is one of segmented and continuous.

20. The tamper evident lid of claim 19 wherein:

a chamfer extends into said rim from said lower edge at the juncture of said frangible membranes and said lower edge to avoid a sharp corner at said juncture upon tearing of said frangible membrane.

21. The tamper evident lid of claim 2 further compromising a respective of said frangible membrane dispensed on opposite sides of at least one of said finger to provide a tab portion partially detachable from a sidewall portion of the rim.
22. The tamper evident lid of claim 21, wherein the tab portion further comprises a first tab portion depending from said upper end and a second tab portion depending from said first tab portion toward said lower edge, said second tab portion is a detachable from the sidewall portion.
23. The tamper evident lid of claim 22 further comprising a rib extending inwardly from the sidewall portion of the rim, the rib having an extension portion overlapping both said first tab portion and an adjacent one of the frangible membranes, the extension portion for inhibiting tearing of the adjacent frangible membrane associated with the first tab portion.
24. The tamper evident lid of claim 23, wherein the rib and the extension portion are configured for engaging said lip to retain said lid on said container once mounted thereon.
25. The tamper evident lid of claim 23, wherein respective extension portions overlap said first tab portion and each of the adjacent frangible membranes on opposite sides of the first tab portion to inhibit tearing of the adjacent frangible membranes associated with the first tab portion.
26. The tamper evident lid of claim 25 further comprising an interrupted portion located between the extending portions for allowing said finger to flex outwardly towards a retracted position against the inner surface of the tab portion.
27. The tamper evident lid of claim 22 further comprising an offset wall between said first tab portion and said second tab portion to define an offset hinge, the offset hinge for promoting bending of the tab portion between the first and second tab portions upon tearing of the said frangible membranes.

28. The tamper evident lid of claim 27, wherein respective extension portions overlap the adjacent said frangible membranes on opposite sides of the first tab portion to inhibit tearing of the adjacent said frangible membranes associated with the first tab portion.

AMENDED CLAIMS

[Received by the International Bureau on 01 December 2003 (01.12.03):
original claims 1-4 and 23-28 replaced by amended claims 1-4 and 23-29 (2 pages)]

1. A tamper evident lid for mounting over an opening of a container having sidewalls with a lip extending outwardly therefrom to define said opening, said lid comprising:

a base;

a rim extending about said base for receiving said lip;

at least one resiliently flexible finger extending inwardly from said rim for engaging said lip, each said at least one finger having a length exceeding the distance between and inside of said lip and said sidewall and extending toward said base when said lid is mounted on said container; and,

at least one pair of frangible membranes spaced apart and formed in said rim and associated with the at least one finger for facilitating tearing of said rim to disengage the at least one finger from said lip to enable removal of said lid from said container while leaving evidence of removal by way of torn frangible membranes, the at least one finger disposed between the at least one pair of frangible membranes.

2. The tamper evident lid of claim 1 wherein:

said rim has an upper end adjacent to said base and a lower edge distal to said base; and

said frangible membrane extends from said lower edge toward said upper end.

3. The tamper evident lid of claim 1 wherein:

a respective of said frangible membrane is disposed on opposite sides of at least one said finger.

4. The tamper evident lid of claim 2 wherein:

at least a pair of said fingers is provided; and,

23. The tamper evident lid of claim 22 further comprising a rib extending inwardly from the sidewall portion of the rim, the rib having an extension portion overlapping both said first tab portion and an adjacent one of the frangible membranes, the extension portion for inhibiting tearing of the adjacent frangible membrane associated with the first tab portion.

24. The tamper evident lid of claim 23, wherein the rib and the extension portion are configured for engaging said lip to retain said lid on said container once mounted thereon.

25. The tamper evident lid of claim 23, wherein respective extension portions overlap said first tab portion and each of the adjacent frangible membranes on opposite sides of the first tab portion to inhibit tearing of the adjacent frangible membranes associated with the first tab portion.

26. The tamper evident lid of claim 25 further comprising an interrupted portion located between the extending portions for allowing said finger to flex outwardly towards a retracted position against the inner surface of the tab portion.

27. The tamper evident lid of claim 22 further comprising an offset wall between said first tab portion and said second tab portion to define an offset hinge, the offset hinge for promoting bending of the tab portion between the first and second tab portions upon tearing of the said frangible membranes.

28. The tamper evident lid of claim 27, wherein respective extension portions overlap the adjacent said frangible membranes on opposite sides of the first tab portion to inhibit tearing of the adjacent said frangible membranes associated with the first tab portion.

29. The tamper evident lid of claim 2, wherein a pair of the fingers is disposed between the pair of frangible membranes.